

WHY TROPES CANNOT BE METAPHYSICALLY SIMPLE

A Thesis

by

HEINRIK ZIEHM HELLWIG

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2008

Major Subject: Philosophy

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ABSTRACT

Why Tropes Cannot Be Metaphysically Simple. (May 2008)

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A popular concept in contemporary metaphysics is that of metaphysical simplicity—the idea that an existent can have no parts. One reason for this is that the notion of a simple is crucial to discussions of the composition of single objects. Simples, if real, are the basic units that, when combined in various ways, make up all other objects. Keith Campbell claims that tropes—particularized properties—can be simple. In this essay I argue, against Campbell, that tropes cannot be simple. They are made up of at least two parts—a bare particular and a universal.

In Section 1 I give an exhaustive account of what it is to be a simple. Then in Section 2 I discuss basic particulars and what conditions must hold for a simple to be basic. Then in Section 3 I explain the nature of tropes and sketch out the parameters of Campbell's trope ontology. In Section 4 I argue that simple tropes actually have universal properties as parts. In Section 5 I give a logical argument to prove the correctness of the argument in Section 4. Then in Section 6 I take up several possible objections to my claim that tropes are not simple and argue that each one fails. Finally in Section 7 I conclude that tropes need to have an individuating component as a part and remark that tropes' location is not sufficient to be this component. My final claim is that tropes are not simple and they cannot be basic units in any robust sense.

To Charlie,
a trope of loyalty if ever there was one

ACKNOWLEDGEMENTS

One might argue that incurring debts of gratitude is a necessary condition for completing a thesis project in philosophy. I would strongly defend such a claim. I received an immense amount of personal and academic support while writing this thesis that was indispensable to its completion. If I could derive a quantitative sum for all that support, I would find that I ran up a very high bill. Hopefully, I can begin to chisel away at some of those debts here.

I must first thank my thesis committee. Dr. Christopher Menzel has been nothing short of the best possible adviser to work with. (Yes, I purposely selected a modal phrase to describe him.) My experience in his graduate seminar on modal metaphysics played a crucial role in my final decision to write my thesis in the area of analytic ontology. He has provided invaluable guidance on my work in trope theory, both in writing and in conversation. Perhaps the greatest effect from working with him, though, has been on the way I do philosophy generally. In my view, Dr. Menzel is exemplary of the way philosophy should be done: the desire to find ultimate truths is outweighed by the desire to find out whether y follows from x . His subtle ways of imparting this method to me prevented me from overreaching on this project on several occasions. I should also like to thank Dr. Hugh McCann and Dr. Michael LeBuffe. These gentlemen have not only been incredibly patient with me, but they gave me incisive criticisms on drafts of earlier chapters. Without their help, I might have left several errors uncorrected. Finally, I should like to thank Dr. Harold Boas for signing on to be a member of my committee. His willingness and availability helped to make the thesis process go smoothly, the importance of which I cannot capture in one sentence.

In addition, I am grateful to Dr. John J. McDermott, who helped me restore hope during the times I grew most despondent. In that vein, I would like to thank my brother Bart, who inspired me on more occasions than he is aware of.

My greatest debt of gratitude is owed to Charlie, my best friend of fifteen years (and counting). Despite not being adept at swimming, you have proven to be the best

lifeguard I know. You saved me from drowning several times. Your unconditional support and loyalty inspired me to be a friend to myself and to philosophy again. It is an honor for me to emulate you in that respect. The positive impact you have had on my life is immeasurable.

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CHAPTER I

INTRODUCTION

A trope is a particularized property or quality—a property taken as an individual aspect of a particular object, e.g., *the flatness of this tabletop*, *the redness of this rose*, and *the steepness of Mount Everest*.¹ Conventionally, trope theorists have maintained that tropes are metaphysically simple.² To be simple, a trope must not have parts. Each of the tropes just mentioned would be regarded as simple, but consider just *the redness of this rose*. One might presume that this trope can be analyzed as being constituted of two parts: a *thisness* part—that which provides the trope its particularity, its being this distinct redness rather than any other—and a *redness* part—that which provides the trope its nature, its being a redness *qua* redness. Many trope theorists have claimed that such an analysis is impossible. They say that *the redness of this rose* is, at bottom, *this particular redness*, therefore simple. The thrust of their claim is that, if true, tropes satisfy one of the requirements for being ontologically basic entities. What this means, specifically, is that tropes would be the only kind of entity we would need to give a clear view of the world's structure and relations. Keith Campbell is perhaps the most famous defender of this view.³ In this essay I argue, against Campbell, that tropes cannot actually be simple. They are constituted of at least two parts—a bare particular, and a quality that makes reference to a universal. I defend this claim by showing that tropes themselves have universal properties that need to be individuated. I conclude that tropes cannot be ontologically basic in any robust sense.

This thesis follows the style and format of *Philosophy and Phenomenological Research*.

¹ This definition of trope comes from Chrudzimski 2002, p. 137.

² See, for example, Bacon 1995, p. 5; Campbell 1990, p. 20; Maurin 2002, p.15; Williams 1953, p. 7; and with some interpretation, Stout 1921, pp. 161-66.

³ See Campbell 1976, Chs. 3 and 14, 1981, and 1990, Chs. 1-4.

CHAPTER II

WHY TROPES CANNOT BE METAPHYSICALLY SIMPLE

1. Ontological Simplicity

I shall begin by explaining what it means to be ontologically simple. Gustav Bergmann once said, ‘Ontology *accounts for everything there is* in terms of *simples*’.⁴ If we interpret Bergmann’s formula as merely stating a program in philosophy, rather than a proclamation of what ontology accomplishes, then we see that Bergmann is right. The business of ontology is to answer a single question, but philosophers can never seem to agree on a univocal way of expressing it. Thus, there are several variants of the ontological question, among them, ‘What is there?’, ‘What exists?’, ‘What is it to have *ontological status*?’, ‘What is real?’, ‘What is it to be an *entity*?’, and more. The disagreement is due in part to the vague nature of the question. The more likely cause of the disagreement, however, is the ambition of ontology itself.

Ontology aims to give a single account of the fundamental constituents of *any* reality, and to explain how these constituents give us the reality in question. A great demand is thus made upon any ontologist to make numerous distinctions in giving any such account. What makes the demand so pressing is that there are only so many words the ontologist can use to make these distinctions. This shortage of words is often the source of confusion. For example, consider Linda and Louis. Linda is a budding ontologist. Her main intuition is that existence is best understood as a special kind of property. She decides to use the phrases ‘ontological status’ to designate the existence property and ‘entity’ to designate anything that has it. Louis, on the other hand, is a famous Quinean. He prefers to use ‘ontological status’ to designate the conferral of values to bound variables and ‘entity’ to refer to anything whose identity conditions are specified. Suppose the time comes where Linda wants to define the exact same concepts

⁴ Bergmann 1991, p. 43. Emphasis original.

that Louis does with his alternate usages of ‘ontological status’ and ‘entity.’ Linda will have to choose her words carefully, and odds are that she will probably select words or phrases that other ontologists have used to refer to very different ontological concepts. At the same time, this shortage of words does little to help the elementary student of ontology. If a student only had knowledge of Louis’s usage of ‘ontological status’, then the student is prone to error, or at least difficulty, once he encounters Linda’s ontology.

Confusion over jargon is one of the reasons that a path of least resistance to ontology has been forged in philosophy. This resistance is unnecessary. Despite the confusion, two things are certain. First, no matter what usage of ‘entity’ or other ontological term you or I or anyone else prefers, ontologists are all concerned with existence in the end. Second, and this is perhaps the more important point, *existence is univocal*. Bergmann rightly reminds us that there are not two ways of existing: we say that either something exists or it does not exist. There are, however, an enormous number of differences between the several things that *do* exist. Some have different shapes, others are made of different material, some are regional, others are said to exist in possibility, and too many more differences to be counted. These differences are so great—great in number and great in character—that the skeptic of ontology could actually use Bergmann’s formula to strengthen the resistance. ‘Accounting for everything there is in terms of simples is impossible,’ the skeptic may say, ‘and we should therefore dismiss ontology as an impractical science.’

It seems to me that this argument would be a misuse of Bergmann’s formula. Notice that Bergmann’s formula deliberately employs the present tense. He says that ontology *accounts* for everything there is; he does not use the present perfect *has accounted*, which would indicate an indefinite time in the past when some ontologist did account for everything there is in terms of simples. But no ontologist to date has successfully accounted for everything there is. *That’s why folks are still doing ontology*. I doubt that even the cleverest skeptic could argue that all possible ontological accounts have been derived or that merely attempting to derive new accounts is impossible. It certainly wasn’t impossible for Linda. She had no trouble attempting an account and all

she used was a mere intuition and a measly two terms. So the skeptic's argument is not very good. Existence being univocal, Bergmann's formula, interpreted as a statement of what ontology *does*, is intelligible. A single method of analysis for ontology can be derived, simply because the ontologist analyzes all existing things in one main way, viz., in the capacity that they exist. For my money, Bergmann's formula is the best formula to derive this method from, and close scrutiny of the way Campbell does ontology suggests that he would agree.

Let us agree, then, that Bergmann's formula is acceptable. We can now unpack its meaning. What, for Bergmann, is an account? What is a simple? Bergmann writes:

An account is some sort of analysis that yields after a number of steps a *collection* of existents, which are all "simple" in the sense that, if subjected to this sort of analysis, none of them yields anything further. Let us call this sort of analysis an *assay*.⁵

Bergmann does not formally define the term 'existent', but we can take 'existent' to mean 'thing that has being or existence'. And we can take the phrase 'collection of existents' to mean 'group of things that have being or existence'. Now Bergmann's definition of *account* alone does not do much to help us fully grasp the notion of a simple. For that, we need to define an *assay*. Here is how Bergmann describes the steps involved in an assay:

Let α be an existent that is not simple. The first step of its assay will yield either a collection of existents, F_1 , or, in the limiting case, a single existent, β , which is different from α . If each member of F_1 is simple, or if, in the limiting case, β is simple, the first step is also the last. If there is a second step, call the collection it yields F_2 . In the limiting case, F_2 is the collection yielded by the first step of the assay of β . In all other cases, F_2 is the collection of all members of F_1 which are

⁵ Bergmann 1991, p. 44. Emphasis original.

simples, and, in addition, all the members of the collections yielded by the first steps of the assays of all the members of F_1 which are not simples. And so on. *In this world, each of these collections F_1, F_2, F_3 , and so on, has a finite number of members; and one arrives after a finite number of steps at a collection, F_n , all of whose members are simples.* This collection I call the foundation of α , more fully, whenever it matters, the *ultimate foundation* of α , thus distinguishing it from the *intermediate foundations*, F_1, F_2, \dots, F_{n-1} .⁶

The most important phrase in this passage is ‘ultimate foundation’. This phrase is not an alternative description for a completed assay. The ultimate foundation of an existent, F_n , is a collection whose members are all simples. To complete an assay, one has to identify how each of the intermediate foundations F_i , $1 \leq i < n$, and eventually, the existent itself, is *produced* from some of the members of F_n . When one arrives at F_n , she has a collection of existents that cannot be analyzed any further. F_n is final step of the analysis. That is why Bergmann calls it ‘ultimate’. It is possible that some of the simples that constitute an existent will only show up in some of the intermediate levels F_i , and get carried along until we get to the final level F_n . But because F_n is the final step, its members will be the last existents that the analysis yields. The ontologist must then explain how the members of F_n mesh to give us each F_i , and in turn, how each F_i meshes to give us the existent in question. Once she has done this, the ontologist has given us the *basis* or *ground level* of an existent. She has told us how the existent is ultimately produced from or constituted of members of F_n . That is why Bergmann calls F_n a ‘foundation’.

The main idea motivating this kind of analysis is that all existents depend on simples to exist. Simples, on the other hand, do not depend on anything to exist; their existence is unanalyzable. *A simple is an existent that cannot be assayed.* Perhaps the easiest way to understand this is in terms of parts and wholes. Following Markosian 1998, I take parthood as a primitive notion and define a proper part as follows.

⁶ Bergmann 1991, p. 44. Emphasis original.

(PP) x is a proper part of $y =_{df} x$ is a part of y but y is not a part of x .⁷

Using (PP), we can define a simple as

(S) x is a simple $=_{df} x$ has no proper parts.⁸

Now let's see (PP) and (S) in action. Suppose Linda is asked to give an account of a 1969 Ford Mustang. She proceeds with her essay, 'This Mustang has pistons, bearings, axles, wheels, a carburetor, a steering wheel,' and so on. Her first step is an obvious employment of (PP). Each of the items she enumerated is a proper part of the Mustang.⁹ They are also intermediate foundations. Remember, though, she wants to ascertain the Mustang's ultimate foundation.

Toward this end, she assays each intermediate foundation, 'Pistons and bearings are hunks of metal, and wheels are hunks of rubber.' This second step is another employment of (PP). But Linda's result sounds unusual. Hunks of metal and rubber do not seem like proper parts in the same way pistons and wheels are. They more resemble what David Lewis¹⁰ has called 'atomless gunk', i.e., objects whose parts all have proper parts which all have proper parts, and so on. But it is perfectly appropriate to call hunks of metal and rubber (and other atomless gunk) proper parts. For one thing, they are both consistent with (PP). But also, they are both important elements in Linda's completing the essay. She will have to explain how they mesh to give us the whole Mustang. If Linda thinks that she cannot assay the rubber or the metal or any other existent she

⁷ Both this definition and (S) are from Markosian 1998, p. 2.

⁸ The notions of part and whole are closely associated with mereology, and philosophers usually take mereology to apply to material things. Thus, the reader might think that analyzing the notion of a simple in terms of parts and wholes in (S) means that only material objects could be simple. But as will become clear later, this is obviously not the case.

⁹ Here's how. Plug in any one of these individual parts for x and the car for y . The car is not part of any of the individual parts, but each one is a part of the car. Therefore, they are all proper parts.

¹⁰ See, for example, Lewis 1991, p. 20.

comes up with *into any further proper parts*, then we have a case of (S).¹¹ For any existent, if (S) obtains, then we say that there is a collection of existents, each member of which is a simple.¹²

Now, to be sure, using this language of parts and wholes to explain simples is somewhat unpleasant. One objection to it is that no existent is ever simple because existents can be analyzed into parts infinitely. ‘We will never get to the bottom of your Mustang, because your metal and rubber can be assayed into proper parts infinitely. How, then, will we ever arrive at simples?’ (By the way, this objector is a disbeliever in atoms, leptons, and quarks.) To strengthen the objection, let’s try something else besides a Mustang. Let’s try a rock. Every rock can be split up into parts that are also rocks. And these rock parts can also be split up into other rock parts. And this can continue on until we reach microscopic rock particles and then sub-microscopic rock particles and it never ends. Thus, we would not be able to say which part of the rock is simple.

The best way to deal with this argument, I think, is to distinguish *dividing* and *assaying*. Dividing, in the context of metaphysics, involves the separation of a whole into *material* or *physical* parts—e.g., particulars of medium size, particles, atoms—while assaying *does not necessarily* involve separation into physical parts. Usually, at least one step of an assay will involve division. But we are not going to be dividing existents at every step in an assay, as we are with a rock by dividing it into a smaller rock at every step. This is because, in an assay, we are mostly interested in an existent’s *metaphysical parts*. What do I mean by metaphysical part? Remember, I take parthood as primitive, so the best I can do is give an example of one. Suppose that Linda thinks the rock’s jaggedness is a simple. Jaggedness is an attribute or property of the rock. Can jaggedness be divided into, say, sub-microscopic jaggedness particles? It seems not.

¹¹ How can Linda conclude that two gunk-like existents are simple when gunk cannot be simple by definition? Recall, I said that metal and rubber *resemble* gunk. It does not follow from metal and rubber resembling gunk that they *are* gunk. Just as it does not follow that I am a member of Linda’s family from the fact that I may resemble her brother very closely. While I happen to think that metal and rubber are gunk-like, Linda doesn’t. So it’s up to her to tell us how they’re simple. Whatever her argument, the bottom line is that she does not think they can be assayed into any further proper parts, and so long as her argument stands, (S) obtains.

¹² This thesis would hold even for limiting cases where our assay yields only one simple. That one simple would be the only member of the ultimate foundation.

The analysis simply stops with the property. If we were dividing existents at every step in an assay, then, needless to say, we would be analyzing infinitely and never arrive at a simple. But that is not the case with properties. So, a property is an example of a metaphysical part.

The expectation with an assay is that *the analysis is going to stop at some point*.¹³ That is why Bergmann included the proviso that we arrive at an ultimate foundation after a *finite* number of steps. In addition, we should have three more expectations about the steps in an assay. First, Bergmann intimates that we should expect there to be at least two steps. Second, we should expect the existent in question to be analyzed into at least one collection of *multiple* existents at each step. Assays that require only one step, where the existent in question is analyzed into a single existent, are what Bergmann calls ‘limiting cases’.¹⁴ Third, we may arrive at a step where we have some collections that contain simples, and others whose members can be analyzed further. We should expect each collection to be sorted according to some similar trait among its members—e.g., a common function, having similar compositional properties, visually resembling each other. Linda organized the intermediate foundations of the Mustang in just this way: each piston belonged to the pistons collection and no other, and similarly for the wheels. Simples will also be organized according to similar traits, viz., being (metaphysical) parts of existents and not themselves having parts.

¹³ But why should we even have this expectation? Why should we go along with Bergmann and assume that there *are* simples? Couldn’t there be a world that consists solely of gunk, i.e., that there be a world where there simply are no things without proper parts? Well, sure. That’s a possibility. Not only that, it may very well be actual. That our world is a world of gunk is a perfectly conceivable idea, one that, if I am interpreting him correctly, Anaxagoras believed to be true. (See Kirk, Raven and Schofield 1983, pp. 352-84.) But it seems equally possible for the world to be composed of simples. I think, in part, the concern here is that Bergmann’s statement, assertive as it is, could be read as saying that it is necessary for any reality to be composed of simples. (‘Everything there is must be accounted for in terms of simples’, instead of, ‘Ontology accounts for everything in terms of simples.’) Bergmann does not wish to imply the necessity. Whether our world is composed of simples is a contingent matter. Likewise, it is contingent whether every world turns out to be composed of simples, or whether the world is actually composed of gunk, or even a combination of gunk and simples. The reason we should go along with Bergmann is that the analysis must stop in order to be useful. Thus, if our assay yields only gunk, its infinite divisibility would be a brute fact. In this way, gunk would be *like* a simple: it is a ground level existent out of which all other existents would ultimately be produced. The assays of the Anaxagorean and the believer in simples would thus resemble each other closely, despite disparate conclusions.

¹⁴ A monistic ontology is the most ready example of a limiting case.

So what does any of this have to do with trope theory? Campbell claims that every assay will yield the result that tropes are the only simple entities.¹⁵ What this means is that Campbell's account of every existent there is will go something like this: either it is a trope or it is produced out of tropes. I want to argue that this situation is impossible, but I must do a bit more groundwork first. Campbell says that tropes are *basic particulars*¹⁶, and simplicity is one of three necessary conditions for being a basic particular. The defensibility of Campbell's account rests on tropes *being* basic particulars, so I will undertake to say what they are in the next section.

2. Basic Particulars

Campbell defines a basic particular as an existent that is *simple, fundamental, and independent*.¹⁷ But this definition alone is not very helpful. What is a particular?

Campbell says that a particular is a being whose distinguishing mark is that it is exhausted in one embodiment, occasion, or example.¹⁸ Hence, particulars are restricted to existing at a single location at any one time.¹⁹ The most familiar examples of particulars in our world are *material bodies*. Ontologists usually call them *concrete particulars*. A book, a pen, a chair, a pipe, a shoe, a kitchen sink, a knife, a rock, a pool of water, a coffee pot, a dog, a house, a rabbit, a boat—all of these are existents that are concrete particulars. These are solid, compact things that have definite surfaces, which cohere firmly together as *unities* of some sort.²⁰ They are unities because their physical parts—e.g., the handle and the blade of the knife—and their metaphysical parts—e.g., the properties of the knife, such as its sharpness and its slenderness—hang together in

¹⁵ Campbell 1990, p. 4: '...every real situation consists precisely in the presence of one or more tropes, no more and no less.' This is tantamount to the claim that every assay will yield tropes at bottom.

¹⁶ See Campbell 1976, p. 217.

¹⁷ See Campbell 1976, p. 31.

¹⁸ Campbell 1981, p. 351.

¹⁹ I should add that we must assume that space is real in order for this definition of *particular* to succeed. For his defense that a spatiotemporal world exists, see Campbell 1976, pp. 26-27.

²⁰ Cf. Campbell 1976, p. 28.

such a way that we think of each one as a separate individual object, existing in its own right, in a single region of space.

The opposite of particular, Campbell tells us, is *universal*. Campbell defines a universal as an existent that can have multiple locations in space at the same time without being divided.²¹ Perhaps we can make his definition less esoteric by telling a story about universals. Many philosophers appeal to universals to explain the appearance of objective sameness in the world. Such philosophers are called *Realists*. The main facets of reality that exhibit this sameness are the qualities, characteristics, or features that we predicate of indefinitely many concrete particulars. Colors are an immediate case. We predicate the words ‘red’ and ‘green’, for example, of a multitude of concrete particulars, many of which do not *exactly* resemble each other in reddish or greenish hues. Many of our sentences about these qualities often turn out to be true, despite the inexact resemblance. Suppose you and I are on our way to a tour of the local lollipop factory. You are eating an apple in the passenger’s seat and I’m driving. We come to a red light and the following dialogue ensues:

ME: What kind of apple is that? I can’t get over its radiant red color.

YOU: This apple is a Paula Red. It is a kind of McIntosh apple.

ME: Really? Most of the McIntosh apples I’ve seen have red *and* green skin.

[*Brief pause. I start daydreaming about apple orchards. The light turns green.*]

YOU: Hey, pay attention! The light is no longer red. It’s green! Green means go!

In these four lines, you and I have predicated red of the light, the Paula Red, and indefinitely many McIntosh apples.²² (We also predicated green of the light and

²¹ Campbell 1976, p. 233, and 1990, p. 12.

²² In fact, you predicated a negative property of the stoplight in your final line; you said *being no longer red*, which is another way of saying *not red*. But is it correct to say that *not red* is a property? There has been considerable debate on whether negative properties are rightly called properties. I myself am undecided about the issue. For more on negative properties, see Armstrong 1978, v. 2, Ch. 15, and 1989, pp. 82-84.

indefinitely many McIntosh apples, and I predicated McIntosh of indefinitely many apples. For the sake of brevity, though, let's only deal with red.) From the uninhibited pattern of the conversation, I presume that we both took all those predications of red to be true; that is, we both believed that the things we said were red *were*, in fact, red. But in virtue of what is that possible? The red of the Paula Red was not the same red as the stoplight. (Come on, Paula Reds aren't *that* radiant.) Yet, we were able to both speak of them as truly *being* red. A natural answer is that it is in virtue of the stoplight, the Paula Red, and all the other red things in the world resembling each other closely enough in their red qualities that each one warrants the predicate 'red'. You and I accept this answer and reason that people use resemblance as their guide to account for objective sameness in the world. That particulars resemble is how we predicate other general terms of multiple particulars—green, smooth, bumpy, hot, cold, horse, car, and so on.²³

Realists do not think this answer is very illuminating for a number of reasons.²⁴ Their main intuition is to explain the resemblance between particulars in terms of *common properties* that those particulars share. The easiest way, in my view, to explain their point is to look at a case where two or more particulars appear to resemble each other exactly. Suppose you and I have now arrived at the lollipop factory. We watch in amazement as the assemblers crank out hundreds and hundreds of red lollipops onto the conveyor belt. As we watch, neither you nor I can discern any difference in shade on the red knobs of the lollipops. We deduce from their being indiscernible that all the knobs resemble each other in redness exactly. But in virtue of what do two objects resemble exactly? The Realist is going to answer that it is due to the presence of a universal in each red knob that we say they resemble exactly. More specifically,

²³ In this dialogue you and I appear to be not trope theorists, but Resemblance Nominalists. We do not think that particulars involve tropes or universals, but that each particular stands to one another in relations of resemblance. The result is that things fall into classes, but the basis of the appearance of objective sameness holding between them is explained with a primitive resemblance relation. For defenses of Resemblance Nominalism, see Price 1953, Ch. 1, and Rodriguez-Pereyra 2002.

²⁴ For an inventory of those reasons, see Armstrong 1989, pp. 39-58.

REALISM (REAL): If two objects are exactly the same shade of red, what one has is not exact resemblance between the redness of one and the redness of the other, but *numerical* identity: one and the same entity—redness of a specific shade, a universal—is part of both particulars, and it does not exist apart from the objects it is exemplified in.²⁵

(REAL) gives us a basis for deriving a formal definition of a universal (U).

(U) x is a universal =_{df} It is logically impossible for there to be a y which exactly resembles x , but which is not identical with x .²⁶

Together, (REAL) and (U) bring out the initially vague aspects of Campbell's definition of universal. (REAL) shows the reason Campbell says a universal cannot be divided. It is because the Realist thinks an *identical* universal is shared whenever we predicate a common quality of multiple particulars. Universals are singular things capable of multiple exemplifications. Thus, they are *repeatable*. Each time we predicate 'red' of some red thing, the Realist will say that, in nearly all cases, we are referring to the same universal Red that is exemplified in all the other red things. The Realist even holds that this will be the case for things that inexactly resemble. They will say that we predicate 'red' of two inexactly resembling red things because the presence of Red in each of them is what yields the appearance of resemblance. This is because Realists analyze all resemblance in terms of identity with a universal.

Notice also that (REAL) says a universal will be *part* of whatever particulars exemplify that universal. This is best understood by thinking of a universal as a *one-in-many*. When all the lollipop knobs are red, each knob *has* the universal 'redness' in it where 'in' means something like 'is a constituent of'. Redness is not something over and above the knobs being red—a Platonic form, for example—that is copied in the redness of each knob. Redness is literally in each knob as a constituent. Thus, we see

²⁵ Cf. Tooley 1999, p. xiii.

²⁶ This definition comes from Tooley 1999, p. ix.

why Campbell says that a universal can have multiple locations in space and time. Of course, Realists know that universals conflict with our standard idea about space and time, viz., that it is physically impossible for any entity in the space-time world to exist simultaneously in multiple locations. Accordingly, Realists call universals *abstract entities*. For the most part, the term *abstract* is interpreted by ontologists in one of three ways: existing apart from concrete particulars, being outside space and time, or incapable of being sensed. For our purposes, though, the term *abstract* should be interpreted as meaning the opposite of concrete.

Interesting as Realism is, it is not my intention to give a full overview of Realism in this essay. I will revisit it later, but up to this point, I think I have done enough to give the reader a handle on the nature of particulars. So I am going to move on. Campbell, following Williams, tells us that any useful ontology will be used to develop a *speculative cosmology*.²⁷ Where ontology provides the basic metaphysical categories for *any* reality, a cosmology gives an account of the general features of the reality underlying what appears as the space-time world. Our cosmology is speculative in the sense that it is based on conjecture rather than knowledge. It is merely our best guess at the reality of the space-time world, formed on the basis of a single ontology. The principal aim of cosmology is to introduce specific real-life examples of the items in our ontology. For instance, if our ontology was one where our simples were, say, objects and properties and events, then our cosmology might then point to people and materiality and natural selection as examples of each of these items in the world. Why am I bringing up cosmology? It is because the notion of a basic particular is best understood in relation to a cosmology known as *concrete particularism*.

Concrete particularism maintains that the space-time world consists solely of concrete particulars. Such a cosmology sounds quite plausible at first blush. It is not unreasonable that concrete particulars should be the kernel of our account of the space-time world. After all, when we think about the space-time world, we find that it is dominated by concrete particulars. Here are a few examples that demonstrate this

²⁷ See Campbell 1976, pp. 21-22. Cf. Williams 1953, p. 3.

phenomenon. We humans can survive in our environment because it contains concrete particulars—houses, cars, food, trees, and the ground to walk on. We ourselves cohere together in unities, as do the tools we use to act on our environment. We think of our world in terms of things, parts of things, attributes of things, and events involving things. Finally, the regions of space that solid objects occupy are filled in a way where all their parts fill exclusively those regions. All of these considerations indicate that the reality of the space-time world could be understood entirely in terms of concrete particulars and an account of their nature and activities.

Despite its intuitive plausibility, Campbell shows us that developing a tenable concrete particularism is problematic. The problem is, again, that many concrete particulars can be assayed into further concrete particulars. To illustrate, consider Linda's Mustang and the solar system. The solar system consists of the planets, moons, comets, asteroids, the sun, stars, all of which are concrete; and we saw that the Mustang consisted of many parts that were also concrete. But if our account of the space-time world is in terms of concrete particulars only, then we will be counting items many times over. Our cosmology will include the Mustang *and* its pistons, the solar system *and* its planets. Aside from being unwieldy, this multiple counting will inhibit our giving a clear account of the world's structure. Comparable trouble arises when we consider concrete particulars that are compounds, like the pool of water I mentioned earlier. We might include in our account the pool *and* its hydrogen and oxygen molecules.

To circumvent this problem, Campbell suggests that we posit a class of *basic particulars*. *A basic particular cannot be assayed into further concrete particulars; it is a concrete particular that has no parts.* The benefit of a class of basic particulars is that it will earmark a class of existents such that the reality of the space-time world will cease to exist if the members of that class ceased to exist. But what kind of parts are basic particulars supposed to be? What are their functions as parts? Campbell gives us the following example to help answer these questions:

When we think of the parts of a car, we think of those pieces from which we can assemble a car. The parts exist independently of the car, and if they are brought together in a particular way, a car is the result. But consider a river. We might say the river is composed of eddies, swirls, and tumblings. Yet it would not be possible to assemble a river out of eddies, swirls, and tumblings. For there could not *be* any eddies, swirls, and tumblings unless there were *already* a river whose eddies, swirls, and tumblings they are. Eddies, swirls, and tumblings are parts of a river quite different from the pistons, wheels, and spark plugs of a car.²⁸

It seems clear, from Campbell's example, that the function of basic particulars is that they are necessary for the existence of the whole they are part of. They will be parts to wholes as spark plugs are to cars. The car is a whole whose existence *depends* on having spark plugs and wheels as parts. No spark plugs, no wheels, no car. The river, however, can exist without eddies or swirls. Furthermore, the parts of the car can exist independently of the car. There could be spark plugs and wheels without cars, for instance. Where the whole depends on the parts as cars on spark plugs and wheels, Campbell calls these *true parts*. A basic particular is a true part and all true parts are simples by definition. Basic particulars, therefore, are simples.

Let us pause for a moment and explain with more precision what *dependence of existence* means. This is not the same thing as what we might call *dependence of description*. As an example of dependence of description, consider the terms 'husband' and 'wife'. No man can be a husband unless there is someone who is his wife. Hence, we might say that the man *depends* on his wife to be a husband. But he depends on her in the sense that he couldn't be *described* as a husband but for the wife (and vice versa for the woman we are describing as his wife). His *existence* does not depend on the existence of the wife. Should they divorce, he will still be an existent in the world (and so will she). They depend on each other only in description: each one needs the other to qualify being designated by a certain term.

²⁸ Campbell 1976, p. 30. Emphasis original.

Dependence of existence is also not the same thing as *causal dependence*. To illustrate, consider another pair of terms, ‘parent’ and ‘child’. Living things cannot come into being without the existence of parents at a particular time, so there is a sense in which the child causally depends on a set of parents to exist. Campbell reminds us, however, that we are interested in *logical* dependence of existence, not *causal*. A child does not cease to exist when his parents pass away; he is not logically dependent on them. Compare this to the car and its parts. If the parts of a car cease to exist, then the car ceases to exist. ‘There is no time at which I can remove (and not replace) all the car’s parts without thereby destroying the car’.²⁹ The car is a case of logical dependence and this is the kind of dependence we mean by *dependence of existence*.

Dependence is crucial to understanding the other two necessary conditions of basic particulars: *fundamentality* and *independence*. I will discuss the former first. Consider two classes of concrete particulars *A* and *B*. Campbell explains what conditions have to hold for *A* and *B* to be fundamental:

We can say that *A*’s are *more fundamental* than *B*’s if *B*’s depend upon *A*’s but not vice versa. And *A*’s are *fundamental* if there are no other particulars upon which they depend.³⁰

We already encountered fundamentality in some capacity when we discussed simples. Simples can be parts of wholes and their existence does not depend on having true parts. Should there be a part that we label simple by mistake—i.e., it does, in fact, have true parts—we should say that part’s true parts are *more fundamental* than it.

Independence is the contrary of dependence of existence. If an existent is independent, then not only can it exist without true parts, but it can exist apart from every other particular there is. An independent existent *could be* the only existing thing in the universe. Inasmuch as our world is filled with concrete particulars, it will be tough for us to get our heads around the idea that the universe could contain only one

²⁹ Campbell 1976, p. 30.

³⁰ Campbell 1976, pp. 30-31. Emphasis original.

concrete particular. The best place to start, in my opinion, is Aristotle's *Categories*. In Aristotle's ontology, concrete particulars—Aristotle calls them *primary substances*—are capable of existing on their own. Qualities and relations, on the other hand, depend on substances to exist; that is, qualities are always qualities *of* substances and relations are always relations *between* substances. The key to grasping Aristotle's distinction between independence and dependence is his phrase 'in a subject'. At *Categories* 1^a20-25, he writes:

Of things there are...Some are in a subject but not said of any subject. (By 'in a subject' I mean what is in something, not as a part, and cannot exist separately from what it is in.) For example, the individual knowledge-of-grammar is in a subject, the soul, but is not said of any subject; and the individual white is in a subject, the body (for all color is in a body), but not said of any subject.³¹

In this passage, Aristotle seems to think tropes are things that are 'in' substances. (They are tropes because he says *the individual* white and *the individual* knowledge-of-grammar.) We ordinary language speakers do not naturally speak of all qualities as being *in* the substances they belong to. What we usually say is that things *have* qualities. Nevertheless, we can give an account of 'in a subject' for ordinary English locutions that captures what Aristotle seems to be proposing. Following Ackrill, we say that:

(IN1) *A* is 'in' *B*, if and only if, (a) one could naturally say in ordinary language either that *A* is in *B* or that *A* is of *B* or that *A* belongs to *B* or that *B* has *A* (or that...), and (b) *A* is not a part of *B*, and (c) *A* is inseparable from *B*.³²

Condition (a) is a paraphrase of '*A* is 'in' *B*', while (b) and (c) have obviously been incorporated into (IN1) from the first parenthetical remark in *Cat.* 1^a20-25. For our purposes, condition (c) is the most important. To say that *A* is inseparable from *B* is to

³¹ Ackrill 1964, p. 5.

³² Ackrill 1964, p. 74.

say that *A* is incapable of existing apart from *B*, or in Campbell's language, that *B* is fundamental to *A*. For example, consider the trope *Socrates' compassion*. Aristotle wants to say that compassion itself could exist without Socrates. (Surely there are other Athenians who are said to be compassionate.) But Aristotle thinks that *this individual quality* of compassion—Socrates' compassion—cannot exist without Socrates. Socrates' compassion depends on the existence of Socrates and is thus *in* Socrates. Likewise, *the redness of this rose* could not exist apart from the rose we are considering, because every trope of redness is a redness of some primary substance.

Campbell is going to claim the contrary. He grants tropes the possibility of independence and I will discuss how in §3. In the meantime, I would like to say more about independence. It seems to me that Aristotle's 'in a subject' distinction is more immediately helpful to comprehending arguments in favor of tropes being dependent existents than it is to comprehending the concept of independence. We can get around this problem by exploiting (c) in (IN1). One could interpret '*A* is inseparable from *B*' as a statement about *the environment* that *A* exists in; that is to say, *B* designates the surroundings or conditions on which *A*'s existence depends. With that interpretation, independence could be defined as (IN2):

(IN2) *X* is independent =_{df} For any feature *y* of *X*'s environment, *X* is capable of existing without regard to *y*.³³

If (IN2) is right, then Socrates, for example, *might* qualify as an independent existent: he could exist without his compassion, his whiteness, his being an Athenian and so forth. But (IN2) is unhelpful because the features of *X*'s environment are likely to be innumerable. Thus, we are better off with a version of (IN2) that omits the term 'environment'. Call it (IN3):

³³ O'Connor 1972, p. 39. Quantifier added.

(IN3) X is independent $=_{df}$ For any condition z , X is capable of existing apart from z .³⁴

According to (IN3), an independent existent is something for whose existence there are no necessary conditions. For any existing X , there is no condition z such that the privation of z from X guarantees that X cannot exist on its own. (IN3) implies that it would be logically possible that nothing else is required for the existence of X other than X itself. So X could be the only existing thing in the universe.

The logic of (IN3) is best captured if we take some objects X from the space-time world that have certain necessary conditions and then plug those necessary conditions in for values of z . Take, for example, a crabapple tree. If the tree is X , then its z 's will include sunlight and water. Because both z 's are necessary conditions for the existence of the tree, then by (IN3) we should not count the tree as being independent. If one of the polar ice caps is X , then one of its z 's will be freezing temperature. If Socrates is X , then he would not be independent after all; one of his z 's would be having blood, another would be having oxygen, and so forth.

But now we have a problem. The more examples from the space-time world we choose, the less likely it seems that any one of them lacks necessary conditions. This observation might lead us to believe that the universe contains no independent existents. Such a conclusion may be correct, but most metaphysicians accept independence in the sense of (IN3). Moreover, they accept ordinary concrete particulars like trees, ice caps, and Socrates as being independent. To facilitate the discussion, I will go along with conventional wisdom. I will accept (IN3) as being true. I will also accept that ordinary concrete particulars are independent. Something should be said, though, about how metaphysicians reconcile a general description of independence like (IN3) with the observation that there seem to be no exemplary independent existents in the space-time world.

³⁴ O'Connor 1972, p. 39. Quantifier added.

I suspect that, when it comes to independence, these thinkers are mostly interested in one special condition, viz., what ontological kinds are fundamental to the existence of concrete particulars. Many Realists, for example, have accepted the idea that universals and *bare particulars* are the two most fundamental kinds. A bare particular is an entity that is in a concrete particular as a constituent and performs the task of *individuating*, i.e., distinguishing from other concrete particulars of the same kind. The need to posit an individuating component can be seen if we recall our trip to the lollipop factory. Imagine that we plucked two of those exactly resembling red lollipops from the conveyor belt and had the following discussion:

ME: How many properties do you think this lollipop has?

YOU: Well, let's see. It's red, round, hard, lightweight, breakable, sweet, and semitransparent. I suppose we can also count the stick's being wooden and slender. I'm probably forgetting a few, but it seems that it has several!

ME: Indeed it does. I wonder how it is possible for all those different properties to belong to one and the same lollipop.

Implicit in my last remark is a question about the constitution of a single individual. In virtue of what do I have one, single, complete, distinct lollipop? One possible answer is that an individual is nothing other than its properties, that quite literally, an individual is a bundle or a clump of properties. If, by 'properties', we mean 'universals', then this answer faces an insurmountable difficulty. By (U) above, if the two red lollipops really do exactly resemble, then they will be indistinguishable from one another: each lollipop would have literally the same constituents, thereby making them one and not two. So, apparently, a bundle-of-universals answer cannot account for the difference between two things. (We have not yet given tropes a full treatment, so let's hold off on the bundle-of-tropes possibility for now.) It looks as if there is something more to an individual than its properties, viz., something that *does* the distinguishing.

Realists believe that a bare particular is that something more. It is bare in that it is not itself a quality. To see how, think of qualities as the clothes that particulars wear. Now, consider ‘this is red’, asserted of one of the lollipop knobs. The Realist will say that the predicate ‘red’ refers to the quality in question (a universal), while ‘this’ refers to the individual in which the quality inheres (a bare particular). Suppose we stripped all the clothes off the lollipop. (Which means we stripped away all its predicates.) What are we left with? The answer is that we are left with a mysterious something that does not have qualities, but nonetheless individuates qualities. That is its bareness. It is particular in that its only job is to individuate.³⁵ It cannot be in more than one concrete particular. Thus, each concrete particular will contain a different bare particular as a constituent. However, bare particulars are not *intrinsically different*. They do not individuate in virtue of each one having its own nature, or anything like that. (Any such suggestion would indicate a real *qualitative* difference.) They are only numerically different.

Bare particulars face some notorious problems³⁶, but if the Realist’s bare particular + universal picture of concrete particulars is good, we can test for independence by asking whether anything is fundamental to either constituent. This would amount to asking whether there are any other particulars upon which they depend. Let’s test the bare particular first. Does the existence of a bare particular depend on

³⁵ Cf. Bergmann 1967, p. 25.

³⁶ Perhaps the most notorious is that they violate the Principle of Acquaintance (PA). PA says that any simple must refer to existents with which one is directly acquainted. But how can we have knowledge of a bare particular if it has no qualities with which we are directly acquainted? Moreover, how could we even mention the bare particular without qualities? As for the first question, Bergmann and Allaire have both argued that one can be acquainted with bare particulars. For those arguments, see Bergmann 1960 and Allaire 1963. As for the second question, we do articulate our experiences in terms of properties things have, but we also do so in terms of properties they *might* have. Locke explored this point. He called the bare particular—Locke’s name for it was *substratum*—the ‘I know not what’ beyond my experience. But as Michael LeBuffe has pointed out to me, it is not altogether clear that we are entitled to say of *his* view, at any rate, that a bare particular has no properties. Their being unknowable does not equal their being unmentionable. I do not know what the weather will be like tomorrow, but I am perfectly reasonable in wondering about it and in thinking that it matters to me, because it does have properties, even if I don’t know what they are. Similarly, a bare particular might have properties that, even if they are unknowable, matter. For example, Locke wonders whether thought can inhere in matter. Thought is not observable in matter, so the question cannot be answered. Nevertheless, it matters a great deal whether thought is there, since it has important consequences for religion and morality if it does. What we don’t know about a particular can matter to us a great deal.

another particular? One reason to think that it doesn't is that it simply does not need another particular. What function would this additional particular perform? The only suggestion that comes to mind is that it would *particularize*; that is, the additional particular would give the bare particular its reality as a definite thing. It would make the bare particular the particular one that it is. One might think that a particularizing element is required because bare particulars are indistinguishable from one another without one. How else could we say that 'this bare particular' is different from 'that bare particular' if there are no qualities to identify them? The answer is that it is particular simply because it individuates. If P cannot exist in more than one concrete particular, it follows that P is exhausted in one embodiment. It sounds to me like that alone would make P particular.³⁷ Nothing extra is needed to make it one. So, the bare particular passes the test. Now let's test the universal. Does the existence of the universal *in* a concrete particular depend on an additional particular? I do not think it would. If a universal has one bare particular to inhere in, why think it would need another? So, the universal appears to pass the test as well.

Neither the bare particular nor the universal depend on any other particulars. Both are fundamental. *Hence, a bare particular + a universal should not depend on any other particulars either.* In that way, a concrete particular can be independent.³⁸ This is not to say that you have to be a Realist to get an independent particular. Nor is it to say that concrete particulars are never 'in' other particulars. On the contrary, Aristotle cites heads and hands as primary substances even though they are 'in' bodies as parts.³⁹ But it

³⁷ One possible reply to this is that the bare particular would not then be bare because it has the property of *particularity*. I suspect the response would be that particularity is not actually a property, even though we can speak of particularity in a predicative way. Such a response may be *ad hoc*, but I will not pursue that issue here.

³⁸ This suggests that a concrete particular is the sum of two independent existents. That raises a potential problem. There are reasons to think that neither universals nor bare particulars are independent. If a universal is a one-in-many, does it not depend on the many to *be* one? And can a bare particular exist without some property tied to it? (I cannot, for example, comprehend a universe where a bare particular is the only resident existent.) A positive answer to the first question, and a negative answer to the second would suggest that a concrete particular is actually the sum of two dependent existents.

³⁹ See *Cat.* 8^v15.

is to say that, if fundamentality were the only necessary condition for independence, then indeed, concrete particulars would be independent.⁴⁰

If one finds the *Categories* unsatisfying, there is yet another way to test for independence, and that is to ask whether a particular is logically dependent on itself. Consider ‘the thing at place P at time T with volume V’ and ‘the thing at place P at time T with shape S’. One might think that one of these cannot exist unless the other does. If so, then they would be logically dependent on each other. But it is possible that these two phrases are used to describe the same particular. If that is the situation, then the particular is logically dependent on itself. Neither phrase designates a fundamental existent needed for the existence of a particular described by the alternate phrase. If a particular is dependent on itself, then we say it is independent.

You may think that simplicity, fundamentality, and independence are close enough in character that they seem like three different names that are all used to describe the same concept of basic particularity. If you do, then much of the discourse in this section would be superfluous. I will attempt to put any such concern to rest by pointing out that they are *interconnected* notions. They are not, however, identical notions. There are cases where a particular can be independent but fail to be simple. We have seen that the Realist’s concrete particulars, for example, are *non-simples*. They are particulars *plus* properties. It is certainly possible for a concrete particular, conceived of in this way, to be capable of independence. Imagine a medium-sized metal sphere whose entire surface is colored with a uniform shade of blue. Can we conceive of a universe where the blue metal sphere is the only resident existent? I think we can. Are there any conditions apart from which the blue metal sphere is incapable of existing?

⁴⁰ I doubt that (IN3) could be revised so that fundamentality is the only necessary condition. There seems to be no good reason to exclude essential properties from the lot of necessary conditions. (Notice that in my analysis of (IN3) I plugged in an essential property for every *z*.) Maybe essential properties get lumped in with the accidental properties, since a bare particular is needed to individuate essential and accidental ones just the same. I leave it an open question as to whether this is what’s going on, or whether such a treatment of essential properties is on the mark. The point is that, if we want a clear definition of independence, which is compatible with conventional wisdom about concrete particulars being independent, we may have to furnish essential properties with a lesser ontological status than we would like.

Perhaps spatiality, but I can't conceive of a non-spatial world. Until a better suggestion is put forward, we have a case of an existent that is independent but fails to be simple.⁴¹

But that is Realism. The interest of this essay is particularism. According to Campbell, particularism is 'any doctrine whose basic items are particulars'.⁴² In cosmology, it is a theory of spatiotemporal being based on individual things. In ontology, it is the attempt to dispense with universals. Campbell is a particularist on both counts, and tropes are his basic items. The strategy for refuting any version of particularism is to show that one of its basic items fails to be simple, fundamental, or independent. I will use that strategy against Campbell by targeting simplicity, but I must first say more about what tropes *are*.

3. The Nature of a Trope

A trope is an *abstract particular*, and we know from the definition of 'particular' in §2 that this means that no trope can be wholly present in multiple locations at any one time. By 'abstract', Campbell means the following:

An item is abstract if it is got before the mind by an act of abstraction, by concentrating attention on some, but not all of what it presented. A complete material body, a shoe, a ship, or lump of sealing wax, is concrete; all of what is where the shoe is belongs to the shoe—its color, texture, chemical composition, temperature, elasticity, and so on are all aspects or elements included in the being of the shoe. But these features or characteristics considered individually, e.g., the shoe's color or texture, are by comparison abstract.⁴³

⁴¹ There is, of course, the question of the extra existent needed to tie together the sphere and its properties. I leave it an open question as to what the nature of this tie is. Whatever the tie is, it will probably also be a simple, and if I am right, then neither its inclusion nor its exclusion will do anything to change the non-simple character of the Realist's concrete particulars.

⁴² Campbell 1976, p. 233.

⁴³ Campbell 1981, pp. 351-52.

Two points are clear in this passage. First, Campbell is not using the sense of ‘abstract’ we use to describe universals. He is using ‘abstract’ to refer to a way of paying attention to certain features of an existent. To help clarify, consider the following lot of items: a shoe, two peas—call them p_1 and p_2 —and a candy cane. Examples of tropes are *the green of p_1* , *the roundness of p_2* , *the green of p_2* , *the minty taste of this candy cane*, and *the leathery texture of this shoe*. To abstract the green of p_1 , for example, I have to focus on it and thereby think about it apart from the other properties p_1 has. It is a discrete, singular instance of a certain quality with a local occupancy—this green *right here*. When we identify a trope with a general term like ‘green’, Campbell thinks that we mean the green that belongs to p_1 and only that green. It is the color of p_1 and nothing else; likewise for the cane’s minty taste, the greenness of p_2 , and all the other tropes in the universe. Second, tropes are usually found in the presence of other tropes. This point can be illustrated with Campbell’s shoe example. All of the qualities in the region of space where the shoe is are qualities *of* the shoe. And wherever the shoe is, that is where its tropes will be. The color and texture of the shoe, for example, will share their place with the shoe’s temperature, its elasticity, its chemical composition and so on. The shoe itself is a concrete particular, but the qualities of the shoe are abstract particulars.

This second point points to another important feature of Campbell’s ontology. Recall earlier I said that for our purposes, ‘abstract’ should be interpreted as meaning the opposite of concrete. This is because Campbell takes ‘concrete’ to refer to a way of considering tropes *together*. Indeed, Campbell is a *bundle theorist* with respect to properties. He sees the composition of the shoe as being nothing over and above its tropes, clumped together, monopolizing a single location. (And if he is right, no bare particular is needed to individuate concrete particulars because each one would be distinguished from every other by whatever tropes happen to compose it.) Thus, when we consider a concrete particular, we attend to *all* of the qualities presented, what Campbell calls a *compresent* set of tropes—i.e., a collection of tropes present together at the same place.⁴⁴ On Campbell’s view, tropes are the basic particulars from which

⁴⁴ See Campbell 1981, p. 357, and 1990, p. 3 and p. 22.

concrete particulars are composed. And the relation between a trope and its compresence set is to be understood as part-to-whole.⁴⁵

Of course, tropes have to be simple for it to work. But if they are, then the account of composition described above is an attractive aspect of Campbell's trope theory. We would only need one category of existents in our ontology to play a valuable explanatory role. Such economy will appeal to those who have anti-Realist inclinations, especially when we consider another major explanatory role that tropes can play: explaining away universals.

To appreciate this role, let's set it up as a potential problem for trope theory. One of the attractive facets of Realism is its somewhat intuitive account of why general terms—names for properties, like 'green' and 'round'—repeat. It is because the same universal is exemplified repeatedly, and a general term corresponds to some universal. Tropes do not repeat, yet general terms do in the trope theory, and this appears counterintuitive. If each trope is truly particular, should we not expect each trope to have its own unique name, so to express a real difference between the tropes in the world? An affirmative answer to the question would obviously be untenable, as it would result in an infinite number of names, making talk about properties between language users near impossible. So the answer must be in the negative. But would that not suggest that there is still something universal about tropes, viz., the nature of the quality designated by the general term?

Campbell would say no. He explains the repeated use of a general term—e.g., 'smooth'—in terms of *resemblance* between smooth tropes. For Campbell, a general property like smoothness is a set of resembling tropes. He writes:

Members of a set are instances of a property. Tile A's smoothness, tile B's smoothness, tile C's smoothness, insofar as they resemble one another, all belong to a set S. There are no a priori limits on how many members S should have, or

⁴⁵ Campbell 1981, p. 353. Emphasis added: 'On the view that tropes are the basic particulars, concrete particulars...count as dependent realities. They are collections of co-located tropes, *depending on these tropes as a fleet does its component ships*.'

how they should be distributed through space and time. So in this respect S behaves as a universal must.⁴⁶

‘Tile A’s smoothness,’ ‘Tile B’s smoothness’—Campbell calls these *particularized natures*. A particularized nature, roughly, is the inherent, singular, qualitative character of a trope. The resemblance between smooth tropes emerges out of their particularized natures being like one another. It is by virtue of Tile A’s smooth trope and Tile B’s smooth trope being like one another that they are classified as tropes of the same kind. Their natures (and the natures of all the other smooth tropes in the universe) are like each other in such a way that they form a natural class. I will use the term *resemblance set* to refer to a natural class of resembling tropes that marks off a specific general property. For example, Smoothness is the resemblance set containing all of the individual tropes (i.e., all the individual instances of smoothness) in *all* smooth concrete particulars. It is a maximal set of resembling tropes, and so it serves as a substitute for the real universal Smoothness.⁴⁷ Thus, when we say a substance has the property ‘smooth,’ Campbell’s thesis is that, we refer not to a universal, but to one of the elements in the resemblance set of resembling smooth tropes. For Campbell, it is by the close resemblance of the smooth tropes in question that we may correctly apply a general term like ‘smooth’ to a multitude of smooth objects.

Campbell takes the resemblance relation to be an objective, unanalyzable primitive.⁴⁸ This means that we cannot say why some tropes resemble each other more than others; all we can say is that things do resemble. To say that the resemblance relation is objective is to say that it exists independently of any human interpretation about the nature of resemblance. Of course, resemblance between tropes will vary and there will be disputes between humans over degrees of resemblance, i.e., over how closely objects are perceived to resemble each other. Human interests are also reflected

⁴⁶ Campbell 1981, p. 358.

⁴⁷ In this context, the term ‘maximal’ means that resemblance sets of tropes—ones that can properly substitute for real universals—will contain *all* the instances of a certain property. No trope that exactly resembles all the members in a resemblance set will be excluded.

⁴⁸ Campbell 1990, p. 31.

in science through our propensity to develop resemblance-based taxonomies. But neither of these things is what determines the resemblance relation. The particularized natures of tropes determine it. Resemblance is born from, or flows out of, the inherent characters of the tropes inhabiting our world.⁴⁹

It must be noted that, for Campbell to successfully explain away universals, the close resemblance of tropes is not sufficient for forming a resemblance set. They need to resemble each other *exactly*. There are two reasons for this requirement. The first is that these sets are being substituted *for universals*. In order to apply a general term for F-tropes across a multitude of objects like we do universals, the tropes themselves have to *act* like universals. That is, each F-trope has to act *as if* it had a common nature with the other F-tropes so it could correspond to the name 'F'. But there are no common natures with tropes, just resembling natures. The closest we come to a common nature with tropes is *exact resemblance*. Thus, we say that the tropes comprising resemblance sets exactly resemble each other. (Of course, we only get exact resemblance at the theoretical level. No two existing tropes are identical twins.⁵⁰ The move here is that by saying that tropes in resemblance sets exactly resemble, tropes can have all the same extensions that universals do. This may come off as an ad hoc maneuver on Campbell's

⁴⁹ This 'flowing' may become more clear once it is explained that resemblance is an internal relation. According to Armstrong 1989 (p. 44), 'a relation is internal...when given certain terms with certain natures, the relation must hold. It holds 'in every possible world' where these terms have these natures'. To see what Armstrong means, take any two tropes *a* and *b*. Their particularized natures make it the case that, for any possible situation we come up with, *a* and *b* will always resemble each other to degree *D*. (For any world *W* where *a* and *b* do not exist, we would say that if *a* and *b* would have existed in *W*, then they would have resembled each other to degree *D*.) The unique degree of resemblance *D* that exists between *a* and *b* is fixed. A relation is external when it is not dictated by the natures of its terms. Distance relations are an exemplary case. Suppose that Jones' knife and fork—hence their tropes—are set five feet apart from one another on his dinette. Let *s*₁ be one of the knife's silver tropes and let *s*₂ be one of the fork's silver tropes. Nothing about the particularized natures of *s*₁ and *s*₂ make it necessarily the case that they stand five feet apart from each other on the dinette. It is a completely contingent matter that they do. For, we can envisage a possible world *w*₁ where, say, they stand six feet from one another, and a world *w*₂ where the knife and fork reside in a heap in the kitchen sink. Notice, however, in *w*₁ and *w*₂, that even though their distances have changed, the degree of resemblance between *s*₁ and *s*₂ remains unchanged. For that reason, resemblance cannot be external. How could it be that *s*₁ and *s*₂, with their own natures, suddenly resemble each other to a greater or lesser degree as silver tropes, simply because they exist in another possible world? That possibility cannot obtain so long as tropes have their own natures. Resemblance, therefore, is internal. The internal-external distinction is significant for resemblance sets in the following way: if the resemblance between *s*₁ and *s*₂ is exact, then they can never fail to be members of Silver.

⁵⁰ Armstrong makes the same point on p. 121 of his 1989.

part.⁵¹ But I think it would be ad hoc only if the different wording was the sole thing that gets us out of the problem of universals. In most cases, the similarities between tropes are so close that we just do say they exactly resemble.)

The second reason for exactness stems from a logical requirement for natural classes. Recall that resemblance sets just are natural classes whose elements are tropes. Natural classes that mark off specific types are called equivalence classes. So resemblance sets are equivalence classes of tropes. In an equivalence class, there is a special relation that holds between all the members of the class called an *equivalence relation*. What makes equivalence relations special is that have the properties of being *reflexive, symmetric, and transitive*. When a relation R has all three of these qualities, it divides up the entire field of things which R holds of into mutually exclusive classes—classes whose members cannot bear R to any other object in the field of R.⁵² Exact resemblance is an equivalence relation. It divides up the field of all tropes that exactly resemble one another into mutually exclusive classes. For any tropes *a*, *b* and *c*, if they are members of a resemblance set, then *a*, *b* and *c* cannot exactly resemble any other tropes. To see how, suppose there are only three tropes in the resemblance set Silver—*s*₁, *s*₂, and *s*₃.

Reflexivity: Everything exactly resembles itself. So *s*₁, *s*₂, and *s*₃ will exactly resemble themselves.

Symmetry: If *s*₁ exactly resembles *s*₂, then *s*₂ will exactly resemble *s*₁; likewise for *s*₂ and *s*₃.

Transitivity: If *s*₁ exactly resembles *s*₂, and *s*₂ exactly resembles *s*₃, then *s*₁ will exactly resemble *s*₃.

⁵¹ Campbell does not use the term 'exact resemblance,' but the idea certainly pervades his theory. From p. 358 of his 1981, he says, 'Moreover, since the members of S are particular smoothnesses, each of them is fully smooth, not merely partly smooth. This is again a condition which anything proposed as a universal must meet.' I take it that 'fully smooth' is synonymous with 'exactly resembling.' A trope that is only 'partly smooth'---let's say a sandpaper trope---would not be included among the tropes in the resemblance set Smooth. The sandpaper trope would not be included with the smooth tropes from, say, billiard balls and tiles because it does not resemble them exactly or 'fully.'

⁵² This description of equivalence relation closely parallels that of Armstrong 1989, p. 41.

These three properties of the equivalence relation guarantee that none of s_1 , s_2 , and s_3 will resemble only the tropes in Silver.⁵³ Now having articulated the requirements for a resemblance set, let's express it more succinctly:

RESEMBLANCE SETS FOR UNIVERSALS (RSFU): Two things a and b are both F , if and only if there are two tropes x and y such that x is an aspect of a and y is an aspect of b , and both x and y belong to the equivalence class that functions as a counterpart of the universal called by Realists 'F-ness'.⁵⁴

If (RSFU) is true, then universals can be explained away with tropes. We now see the second attractive feature of Campbell's trope theory.

Notice, though, that tropes even have to be simple for (RSFU) to hold. Resemblance hangs on the notion of particularized natures. To say that a trope has, or rather, *is* a particularized nature, is to say that its qualitative character is such that it cannot be assayed into another collection of existents, such that one of the members of that collection furnishes the trope with its qualitative character. And this is just the definition of a simple stated in a more long-winded fashion. (A shortened version is to say a trope's nature is unanalyzable.)

I am skeptical of particularized natures, and that skepticism will be crucial to my main argument. Before moving on to that, one last word here about the nature of tropes. In the paragraph about composition, I stated that tropes were basic particulars. We have seen how they can be (allegedly) simple, but we have not yet seen how they can also be fundamental and independent. Establishing the fundamentality of tropes is easy. They are fundamental *because* they are simple: if they cannot be assayed, then there are no other particulars on which they depend. Establishing the independence of tropes, however, is a sticky task. *Prima facie*, it seems impossible for tropes to be able to exist

⁵³ See the Appendix for the problems that occur when we try to define a resemblance set with an inexact resemblance relation.

⁵⁴ Cf. Chrudimski 2002, p. 140.

independently. We saw in the discussion of Aristotle that tropes are always aspects *of* something, as we say with the green of p_1 , the minty taste of the candy cane, Socrates' compassion, and the rest of the lot. That pattern seems to indicate that each individual trope *depends* for its existence on the rest of the compresence set it constitutes.

(Remember, without Socrates, there is no compassion of Socrates.) But also, can we imagine a universe that contains one free-floating trope, e.g., a universe where the minty taste trope is the only resident existent? Making a mere attempt is so awkward that it seems to affirm the intuition that tropes are necessarily dependent. Campbell, however, argues that we should think otherwise:

When it is conceded that, as a matter of fact, tropes tend to come in clusters and that a substantial collection of them, clinging together in a clump, is the normal minimum which we do in fact encounter, we have conceded all that this traditional point of view has a right to claim... The least which could exist on its own may well be less than a whole man or a whole piece of cloth. It may be just a single trope or even a minimal part of a single trope. And some aspects of experience encourage the view that abstract particulars are capable of independent existence. Consider the sky; it is, to appearance at least, an instance of color quite lacking the complexity of a concrete particular. The color bands in a rainbow seem to be tropes dissociated from any concrete particular.⁵⁵

Campbell is claiming that it is a *contingent* matter that tropes are usually compresent. He is also saying that it is a mistake to infer from this pattern that there is a necessary connection holding between substances and tropes. Campbell wants to claim that even if tropes do not in fact ever exist apart from one another, it does not follow that they can't. All he needs is a good justification that secures the *possibility* that tropes are capable of

⁵⁵ Campbell 1981, p. 353. It is worth acknowledging that Campbell's ostensible allowance for single tropes to have parts does not invalidate my argument in the sections that follow. See especially the first paragraph of §4.

independent existence, and that is the purpose of the sky and rainbow examples.⁵⁶ Both the sky and the color bands in the rainbow are discrete instances of color that appear to exist alone, without being parts of any concrete particulars. Neither appears to have any parts themselves, nor do they appear to be unities like concrete particulars are. They are just discrete, singular instances of color—*the sky's blueness*, *the rainbow's color*. Hence, they are independent.⁵⁷

The jury is still out on whether Campbell's argument for independence is tenable, but if it is, then tropes appear to meet all the criteria necessary for being basic particulars. I will now show why they, in fact, don't.

4. Do Simple Tropes Themselves Have Properties?

I have deliberately used the term 'simple tropes' to exclude non-simple tropes—ones that at any rate Campbell acknowledges as being non-simple—from the discussion. One such class of tropes would be properties denoted by an adverbial phrase. Consider the sentence 'Jones butters the toast slowly'. In trope language, this sentence asserts that Jones has a buttering slowly trope. It does not assert that Jones has two tropes, a buttering trope and a slowness trope. For, if it did, we could construe it as saying 'Jones is buttering and Jones is slow'. But it is not obvious that we can attribute slowness to Jones at all until he bears the property of buttering. Suppose that Jones stops buttering and starts smoking. By simplification, followed by conjunction of his new action, we get 'Jones is smoking and Jones is slow'. Clearly, though, it does not follow that Jones is still slow. He could be chain-smoking. The misconstrued paraphrase occurs because

⁵⁶ Cynthia MacDonald has pointed out that this possibility would suggest that it is not a necessary fact about tropes that they are known by acts of abstraction, but a contingent one. Which is problematic because it would suggest that tropes are contingently abstract, whereas it seems to be a central commitment of trope theory that tropes are necessarily abstract. See her 1998, p. 348, fn. 13.

⁵⁷ One interesting consequence of this argument is the possibility that tropes be independent but not actual. Take, for example, a particular black hole. Even if there are no actual black holes (which some physicists have argued), a black hole is an independently existing trope: it is an instance of intense gravitational force that can exist without being a part of any concrete particular. It is certainly possible for the black hole to be the only existing thing in the universe, thus making tropes consistent with conventional wisdom about independence.

it takes ‘slowly’ to describe Jones, when in fact it describes a property of Jones, viz., his buttering. ‘Slowly’ reports the manner in which one of Jones’ properties exists: it denotes a property of a property, or in this context, a trope of a trope. So, while Jones’ has one buttering slowly trope, the trope itself, by virtue of having the slowness property, would contain two tropes. Thus, it would not be simple.⁵⁸

It shows good sense to exclude these kinds of non-simple tropes because including them would make my argument against Campbell far less interesting. I want to show that Campbell’s particularism fails because tropes have properties, and to say this of tropes denoted by adverbial phrases is not only redundant, but labeling trope theory a failure because they do is inaccurate. Interestingly, they will have all of the properties that I say simple tropes have. So a trope like buttering slowly would actually contain more than two tropes—one for buttering, one for slowness, and one for each additional property (although I think the latter are universals not tropes). But calling attention to this will not add any new information about it having a non-simple character.

Most of this section is not so much an argument, but a sketch of my intuitions about tropes. So what exactly do I mean when I say that simple tropes have properties? I mean that there are certain universals—in the sense of (U) above—that are exemplified in each trope, and these universals will stand to each trope as being a part of each trope, in the same way that a universal stands to one of the Realist’s concrete particulars. Notice that, if I am right, then not only would Campbell’s view fail because tropes turn out to be non-simple, but it would also fail because (RSFU) would then be false: there

⁵⁸ There is a puzzle here as to whether ‘buttering slowly’ can still be basic, even though it has a non-simple character. Suppose that I said ‘Jones buttered the toast’ instead. I would have attributed a different term to Jones’ action—‘buttering’—but I would have denoted the exact same trope of Jones that I would have had I said he was buttering slowly. (This, of course, is because ‘Jones buttered the toast’ is logically entailed by ‘Jones buttered the toast slowly’.) It seems to me that a plain buttering trope would qualify as simple for most trope theorists, and could therefore be basic. But the non-simple character of the buttering slowly trope would preclude it from being basic, even though it is the same trope denoted by ‘buttering’. I am inclined to think that this is an instance of Frege’s famous puzzle concerning identity statements, where there are two names—‘Jones’ buttering slowly’ and ‘Jones’ buttering’—that denote the same individual but express different senses. Unfortunately, though, trope theory’s rigid understanding of the notion of property prevents us from concluding that it is a linguistic matter. Strictly speaking, if all properties are tropes, then ‘buttering slowly’ should not be basic.

would be a universal that was not explained away by tropes. But which universals do I have in mind? From the discussion in §3, I say there are two possible candidates.

The first is *tropehood* or *being a trope*. It comes off as a trite suggestion, but will it not be a property predicated of all tropes? Won't it be exemplified in all tropes across the board?⁵⁹ We can determine whether it is by seeing if we can account for *tropehood* in terms of tropes. Indeed, we begin with the premise that each trope has a trope of tropehood. But right away, this seems to introduce a regress. I shall demonstrate.

1. Suppose that all tropes have the property *tropehood*.
2. If a trope has a property, then it has a trope.
3. From 2 and 1, for any trope *a*, it has an additional trope *b*: a trope of tropehood of a tropehood trope.
4. But from 3 and 1, *b* has the property of tropehood.
5. Then from 4 and 2, *b* has an additional trope *c*...
6. We have an infinite regress of tropes of tropes.

This regress would be a problem for the trope theorist if it turned out to be vicious. As it stands, it is not obvious that it is. However, Fredrik Stjernberg has shown in his 2003 that there is a way to turn it into a vicious regress.⁶⁰ It seems correct to say that one could distinguish between two kinds of tropes: tropes of ordinary concrete particulars and tropes of tropes. The former would be known through a single act of abstraction, while the latter would be (theoretically) known through two acts of abstraction. Call the former *1-tropes*, and the latter *2-tropes*. With this distinction in mind, consider the sentence 'Socrates is wise'. Campbell would analyze this sentence as follows:

Socrates is wise' is true iff there is a trope *a*, such that it is an element of the intersection of two trope sets, namely the compresence set *C* of the tropes

⁵⁹ Hochberg 2002 argues that tropehood is a legitimate property.

⁶⁰ Stjernberg 2003, pp. 41-42.

making up Socrates, and the exact resemblance set *Resm* of wiseness tropes (which contains the wiseness of Descartes, Archimedes, and so on).⁶¹

This analysis states the truth conditions for asserting a 1-trope of an individual. Now consider the sentence '*a* is a 1-trope'. Its truth conditions will be:

a is a 1-trope, if and only if there is a *b* such that *b* is a 2-trope that is an element of the intersection of the compresence set *C* making up *a*, and the exact resemblance set *Resm* of 1-tropes.

But now we need an explanation of what a 2-trope is if *being a 2-trope* is predicated truly of *b*, and such an explanation introduces a vicious regress. As Stjernberg points out:

In order to explain what an *n*-trope is, we have to introduce an *n* + 1-trope, which in its turn is explained by the introduction of *n* + 2-tropes...The result of this is that...any given trope is just a stepping-stone in an infinite hierarchy of trope-collections, it is no real, or ultimate, halting place.⁶²

Because of the hierarchy, it looks like the trope account of tropehood will not suffice. But Campbell seems to reject 2-tropes. In §6, we will see that he does not accept tropes that require multiple acts of abstraction. So Stjernberg's argument is ineffective in his view. It does not seem entirely implausible, though, that there should be 2-tropes (conceptually speaking), and that this argument could work against a trope theory that doesn't reject them. If nothing else, it shows that no trope theorist could rationally fall back on the 1-trope/2-trope distinction. At any rate, a trope account of tropehood appears to be out.

⁶¹ Stjernberg 2003, p. 40.

⁶² Stjernberg 2003, p. 42.

We must now ask whether or not tropehood is an instance of (U). Consider two simple tropes x and y and suppose that x exactly resembles y *qua* trope. This means that x and y will resemble each other in all the relevant respects—being abstract, particular, qualitative, particularized natures, and probably more. Is it logically possible for them to not be identical *qua* trope? In this instance, I don't think it is. It seems to me that there is no possible world where x and y exactly resemble in all those respects and fail to both be tropes. If I am right, then, in point of fact, there *is* something universal exemplified in every trope, and *being a trope* is that universal.

Now this deduction might appear to be a swift, but we are about to see that it isn't. Suppose the trope theorist tried to explain *being a trope* in terms of particularized natures. The explanation might go: 'Part of the particularized natures of tropes is to resemble each other *qua* trope. If they exactly resemble each other *qua* trope in every world, then they have their natures in every world. So there is no real universal.' This move is interesting. It boils down to trying to group all tropes into a resemblance set. This means that in this set, *all* tropes exactly resemble! Red tropes would exactly resemble black tropes, flat tropes would exactly resemble kiss tropes, and the possibilities are infinite. I will not explore the tenability of that move here. Instead, I want to ask whether a trope theorist can plausibly fall back on particularized natures to avoid universals.

The notion of a particularized nature is obscure, and unfortunately, Campbell does not say much about it. One reason they are obscure is that it is hard to see how tropes could be particularized natures *other* than by having properties. Trope theory needs to explain how it is impossible for there to be something separate which *makes* or causes tropes to have similar natures. In the explanation offered in the previous paragraph, tropes' *being* particularized natures explains the similarity. But this leads to a problem. If true, then *their natures* explain the similarity between them, not a primitive resemblance relation; and in the trope theory the latter is what's supposed to explain how things appear to have the same properties. Consequently, the trope theorist does not need the resemblance relation: it supervenes on trope natures. But as Chrudzimski points out,

We have only shifted the problem from one metaphysically problematic item (properties) to another kind of problematic item (natures of tropes)—items that seem to be very ‘property-like’.⁶³

Chrudzinski means ‘universal-like’ when he says ‘property-like’, and on this point, he is right. If trope theory can do without resemblance, and can do with natures only, then are natures universal? If not, then what is it (if not the resemblance relation) that makes the tropes of the same nature into tropes of the same nature?⁶⁴ In the case of tropehood natures, it is hard to see how anything else but a universal is involved. This is why I think *particularized natures* are the other candidate for universality in tropes.

We can now proceed to the main argument.⁶⁵ To recap, I explained in this section why I think simple tropes have two properties: *tropehood* and *particularized natures*. Now I need to show how those properties are part of tropes for tropes to be non-simple. That is the aim of the next section. The early steps of my argument will repeat earlier parts of the discussion.

5. Tropes as Non-Simples

Recall from §4 Campbell’s analysis of atomic sentences. Let’s make it slightly more formal. First, we need a few definitions. Let $C(a)$ be the compresence set, and then define $C(a)$ as the set of all b such that b is a trope and b is compresent with a .

Symbolically,

$$C(a) =_{\text{df}} \{b \mid \text{trope}(b) \ \& \ b \text{ is compresent with } a\}$$

⁶³ Chrudzinski 2002, fn. 3, p. 141.

⁶⁴ Chrudzinski 2002, fn. 3, p. 141.

⁶⁵ My argument is a modification and extension of the main argument against trope theory given in Stjernberg 2003.

Now let the resemblance set for the property F be $Resm(F)$, and define the resemblance set of all b such that b is a trope and for some c , c F-resembles b . That is, c resembles b insofar as they are both F (or, perhaps more accurately, have F -natures). Symbolically,

$$Resm(F) =_{df} \{b \mid trope(b) \ \& \ \exists c (c \text{ F-resembles } b)\}$$

With these definitions, we may state the trope theorist's analysis of a simple ' x is F ' sentence with (1):

$$(1) \ Fa \text{ is true, iff } \exists b (trope(b) \ \& \ b \in C(a) \cap Resm(F))$$

We saw that *being a trope* will be predicated of all tropes. Thus, we should be able to use an analysis like (1) to explain ' a is a trope', which is shown in (2):

$$(2) \ a \text{ is a trope, iff } \exists b (trope(b) \ \& \ b \in C(a) \cap Resm(trope))$$

(2) says that a is a trope iff there is something else b which has the property of being a trope, and is compresent with a , and, for some c , c trope-resembles b . More importantly, the quantifier in (2) shows that a can be a trope only if it has b —some other individual which bears the property of being a trope—as a *part*. But this is problematic. Trope theory aims to explain properties *in terms of tropes*. Thus, suppose that b is a trope (of tropehood, obviously) and that it is part of a . But if b is a trope, then by (2), we get something like (3):

$$(3) \ b \text{ is a trope, iff } \exists c (trope(c) \ \& \ c \in C(b) \cap Resm(trope))$$

It now appears that b must contain a trope c as a part for b to be a trope. And then if c is a trope, then it must have a trope d as a part and on and on. It looks like we are off and running with another regress.

Stjernberg suggests that the way to stop this regress is an alternate interpretation of (2). The trope theorist could take $C(a)$ to be the singleton of a , since $C(a)$ in (2) is just the compresence set of the trope a . That way, the only trope in $C(a)$ is a , and there are no other tropes that constitute a or occur in a . Thus, $C(a) = \{a\}$. Then b in (2) would be identical with a : if a is the only trope in $C(a)$, and $b \in C(a)$, then b must be a . This move successfully stops the regress.

But we do not have to go this far. Recall that, for Campbell, a compresence set is a group of tropes that exist together at the same place, and tropes are thought of as the

parts that constitute the group. Then, if $C(a)$ in (2) is the compresence set of the trope a , then it will *always* have a as a part. $C(a)$ would just be a because a will be part of itself and thus compresent with itself. If this is right, then we need not worry about any regress with (2) and (3). We can redefine $C(a)$ as:

$$C(a) =_{\text{df}} \{b \mid b \text{ is compresent with } a \text{ and } a \text{ is a part of } b\}$$

This new definition shows that (2) is actually a redundant account of what it is to be a trope. If $C(a)$ is a , there is no need to quantify over an additional trope-part b or for b to be an element of $C(a)$. So we can exclude that part of the analysis from (2) altogether. From here, (2) becomes:

$$(4) \ a \text{ is a trope iff } a \in \text{Resm}(\text{trope})$$

(4) says that for a to be a trope, it merely has to be a member of the set of all tropes that exactly resemble each other *qua* trope. And this is a disappointing result. (4) is not at all illuminating as to what it is to be a trope. If, however, tropes really are ontologically basic, perhaps we should expect the lack of illumination. What further requirements for tropehood are we to expect? Remaining loyal to Bergmann, (4) may very well be as far as we can go with our assay, and if it is, then we should expect the analysis to stop.

But does it stop there? What would the trope theorist say it is to be another simple trope, say, a red trope? Assuming the new definition of $C(a)$, it seems by (4) that to be a red trope is just:

$$(5) \ a \text{ is a red trope iff } a \in \text{Resm}(\text{red trope})$$

(5) says that for a to be a red trope, it has to be a member of the set of all tropes that exactly resemble each other *qua* red trope. a has its own unanalyzable red nature which resembles the natures of other red tropes insofar as they are red tropes. Well, suppose that a belongs to a certain tomato. We know that, according to Campbell, this means that it will be a constituent of the tomato. So if a is unanalyzably red and it constitutes the tomato's redness, it follows that *the tomato* is also unanalyzably red. Now a and the tomato are two distinct existents, and we could deduce that there should be a different being-red for each one. If so, then we could also deduce that an additional trope is

involved in the redness *of* the tomato's being-red—one for the tropehood of the tomato's redness. If that were correct, then (5) would have been:

(6) a is a red trope, iff $\exists b$ (trope(b) & $b \in C(a) \cap Resm(\text{red trope})$)

But (6) would be subject to the redundancy that occurred in (2), and we avoided that by redefining $C(a)$. Thus, there is no additional trope involved in (5). We just say that a is red. If we want more than this, we could say that that just is a 's particularized nature.

Stjernberg points to a major problem with this solution. If tropes have particularized natures—if they can be things like *unanalyzably red*—then they can have the same qualities that ordinary objects are said to have. We saw this a moment ago with the tomato. One of the tomato's tropes being red was on par with the tomato being red. But this result should be unacceptable to a trope theorist because trope theory could not then be a workable theory of properties. The main aim of trope theory is to answer the question 'How is it that two things, a and b , can both be F ?' without recourse to (REAL). And the trope theorist's answer is that a and b have their own individual F s. But now one can readily ask 'How is it that two things, a trope and a tomato, can both be red?' The trope theorist cannot say that they have their own individual rednesses because the redness of the trope, by virtue of being a constituent of the tomato, *is the same redness of the tomato*. This shows that a bare-particular + universal framework must be at work in trope theory, because the trope and the tomato are distinct particulars that exemplify the same redness. Despite Campbell's best efforts, it looks like a trope needs an individuator after all. There has to be something *in* the trope, a part that distinguishes the redness of the red trope from the redness of the tomato, and so he must accept a bare particular or something like it. And there is no question that it is a universal redness. It is logically impossible for the color of the tomato and the trope constituting the tomato's color to not be identical. Stjernberg is correct when he suggests that trope theory assumes (REAL), even though it claims to reject it.

I must admit that I am somewhat uncomfortable saying that there is a bare particular *in* the trope. Philosophy has become so accustomed to them being part of the Realist's concrete particulars, that it is difficult to think of bare particulars being an

ingredient in anything else. And even though tropes on my view would have the same bare particular + universal constitution as a concrete particular, they still seem to me abstract. Nevertheless, that red trope must contain an element that makes it the redness it is. The tomato must also contain such an element. Otherwise, the tomato and the red trope are the same entity. Thus, we can conclude that a trope must be constituted of at least two parts—a bare particular and a universal—and that tropes are non-simple.

6. Objections and Replies

Let us pause and take stock of what has just been said. I am claiming that the *particularized natures* of tropes, whichever ones happen to be in question, are actually universals that are *in* tropes as parts. Yet several trope theorists continue to defend the claim that tropes are simple. Two recent defenses come from Maurin 2002 and I will appraise them here.

Maurin's first defense is an argument from parity. Maurin argues that tropes can have properties and remain simple because universals themselves have properties.⁶⁶ For example, we have seen that the Realist's assay has universals as one of its simple items. Maurin points out that the Realist's universals will all have the property *being simple*, yet we do not treat a real universal as a whole that contains *being simple* as a part. Maurin infers from this that tropes should be treated no different; that is, if tropes can be simple, then they can all have the property *being simple* too, without it being a true part.

It seems to me that there are two problems with Maurin's argument. The first problem is due to the alleged parity between tropes and universals. I agree with Maurin that, perhaps with a more relaxed notion of property, tropes and universals can both conceivably be simple, in the sense of being ground-level items in an assay. (I read Aristotle's ontology as being one such assay.) However, I do not see how any trope theorist can even begin to compare a trope to a real universal, let alone say that they are in some way equal. *For the trope theorist, there aren't any real universals*, so how

⁶⁶ See her 2002, p. 15. See also Trettin 2004, pp. 157-58.

could they invite comparison? Things become even more puzzling when we consider that Maurin's trope theory, like Campbell's, substitutes not tropes but *sets of exactly resembling tropes* for real universals. Thus, maybe a more consistent claim—consistent with the parameters of her ontology—is that there is parity between sets of exactly resembling tropes and real universals.

But this claim faces serious difficulties. First of all, it is not clear that resemblance sets of tropes are simple like real universals are. One reason that universals can be simple and have properties is that they have certain properties analytically. Universals never change, never cease to exist, and can never be replaced by other universals. These properties lend to universals being simple because they are aspects of the definition of a universal, not proper parts. A resemblance set of tropes could not capture any of these analytic properties.⁶⁷ This is because trope theorists like Maurin and Campbell work with an extensional view of sets, where the members of a resemblance set determine the identity of that set.⁶⁸ And on an extensional view, the concepts of change, ceasing to exist, and replacement all seem to show up. To see how, consider again my crabapple tree. Several months ago it bore no fruit. Now it is in the late stages of blossoming. The crabapples hanging from its branches are beginning to ripen and they have a brilliant red color. New red crabapples have come into the world, which means that new red tropes have come into the world. But now that means the resemblance set Redness has changed. Strictly speaking, it has new members and is thus a different set than before the crabapples blossomed. The result is that Redness pre-blossom is not the same as Redness post-blossom. It is not foolish to think that some brand of trope theory might welcome this sort of result for resemblance sets, but remember we are concerned with the issue of simplicity. If real universals are simple and they have those three properties analytically, then clearly, there are no grounds for

⁶⁷ Cynthia MacDonald makes the same point in her 1998, p. 348, fn. 11.

⁶⁸ We know their sets are extensional because for any trope t , its extension will be the set of all the t -tropes that exactly resemble one another. Likewise, for any real universal U , its extension will be the class of all individuals that instantiate U , and those individuals will exactly resemble each other by default because they all instantiate U . The aim is to have a construction that does all the work of a real universal, but isn't a real universal.

parity. Resemblance sets cannot be simple. The new crabapples are evidence that the resemblance set Redness is in a perennial state of flux—changing as each new crabapple blossoms. It is also possible that Redness ceases to exist, if it so happened that all the red tropes vanished. (If all the members of a set cease to exist, so does the set.) And finally, Redness is being replaced constantly with resemblance sets that contain new red tropes. All of these considerations indicate that resemblance classes are not simple in the same way universals are.

This argument also seems to indicate that trope theory is committed to some version of Presentism. A myriad of new red things come into the world everyday. When you and I visited the lollipop factory, hundreds of new red lollipops—hence, hundreds of new red tropes—came into being, maybe at a rate of 50 per minute. If we started watching the conveyor belt at 12:00, then Redness at 12:01 would contain 50 red tropes that were not in Redness at 12:00, and then Redness would not be the same thing at 12:01 that it was at 12:00. Campbell could object here and argue that trope theory is not committed to Presentism. Indeed, a sentence from the passage quoted in §3 indicates that he seemed to anticipate any such charge:

There are no a priori limits on how many members [a resemblance set] should have, or how they should be distributed through space and time.⁶⁹

We see in this quote that Campbell is an Eternalist. He thinks that tropes from the past and future exist just as much as present tropes. We know this because if there are no limits to how tropes should be distributed through space and time, then there is no reason to think that tropes existing presently should get privileged ontological status.⁷⁰ Neither, then, should resemblance sets. This move affords Campbell a way to refute the claim that Redness, generally speaking, is never the same.

⁶⁹ Campbell 1981, p. 358.

⁷⁰ Provided that I am interpreting Campbell correctly, this entailment seems to me contradictory to the very spirit of trope theory. If tropes are known via acts of abstraction, then why wouldn't I think the trope I am abstracting right now—say, the whiteness of this paper—has privileged ontological status over a trope that I haven't yet abstracted?

But Eternalism does not help us gain any new insight on how resemblance sets could be simple. If anything, it complicates the matter. Consider again all those red tropes in the lollipop knobs. Surely, they could have been orange. If so, then we have a bunch of *possibly orange tropes*. And if we take Campbell at his word, and there are no a priori limits to how many members a resemblance set should have, then presumably, the possibly orange tropes would be members of the resemblance set Orange. Now suppose that we assayed Orange. It seems both intuitive and plausible to think that the natures of the *possibly orange tropes* would be different enough from the natures of existing orange tropes, that they would be sorted into two different collections. (Obviously, their natures are different because I could not abstract a possibly orange trope from a nonexistent lollipop like I could an orange trope from an existing lollipop.) And if so, then Orange would not be simple because it would be built out of *two* intermediate foundations. Campbell would somehow have to convince us that the natures of the possibly orange tropes and the existing orange tropes are similar enough to be sorted into one collection. One way to do this is by committing to a kind of modal realism for tropes, where possibly orange tropes really do exist in the same way that existing orange tropes do, even though they are not currently present.⁷¹ The argument would be that we may not see them at the moment, and they may not be in the same space-time vicinity that we find ourselves in right now, but they should nevertheless be on the list of all existing things. But Campbell openly opposes such a view.⁷² He does not recognize nonexistent tropes. Thus, the possibility that collections of possible tropes be included in resemblance sets is not ruled out, and resemblance sets could still be construed as non-simple.

The second problem with the argument from parity is perhaps the more important one. The problem of simplicity is about whether *tropes* are simple, not whether resemblance sets are simple. Even if Maurin had an argument for the latter, how could simplicity for resemblance sets be sufficient for claiming simplicity for tropes? The

⁷¹ I am grateful to Chris Menzel for suggesting this solution to me.

⁷² See Campbell 1990, pp. 93-95.

issue persists of how a single trope can have a particularized nature and be simple.⁷³ The argument from parity does not adequately tackle this issue. In fact, I think the only way it could work is if trope theory either claimed that tropes *are* real universals, or gave more arguments for how they are similar. But trope theory does not say the former, and does not inquire into the latter because it repudiates them.

Maurin's second defense allows tropes to have a non-simple character and remain metaphysically simple. She says:

The sense in which the trope is *not* complex is...best put as follows: it does not contain (is not constituted of) more than one kind of entity.⁷⁴

The term 'complex' in this quote has the same meaning as 'non-simple', but the quote is elliptical. What kind of non-simplicity does Maurin have in mind if she does not mean the kind pertaining to multiple constituents? Perhaps her idea is that tropes are non-simple in the sense that they can be involved in more than one kind of fact. Trope theorists have had to answer such a charge before. J.P. Moreland argues in his 1985 that all tropes are non-simple because all tropes have two ultimate facts about them—(a) that each trope is distinct and different from every other, and (b) that they exactly resemble. Maybe Maurin's claim is that it does not follow from (a) and (b) that tropes contain true parts. An analogy from Campbell may help explicate the claim:

A point is as simple as you get. Yet points are both different from all other points and also, for example, 10 mm distant from some others. That *x* is involved in more than one sort of fact does not show that *x* is complex. Especially when we are dealing with formal facts of identity and difference.⁷⁵

⁷³ Trettin 2004 has also raised this objection, p. 158.

⁷⁴ Maurin 2002, p. 15.

⁷⁵ Campbell 1990, p. 70.

Campbell uses the example of the point to argue against Moreland. For Moreland, it follows from (a) and (b) that tropes need to be individuated. He does not accept primitive (i.e., unanalyzable) individuality for tropes. He accepts primitive individuality only for bare particulars because he thinks that there is only one ultimate fact about them: they all individuate. (And clearly, Moreland is wrong about this because there is at least one more fact about them: they are all numerically distinct. But I will not dwell on this point.) Campbell, on the other hand, takes the individuality of tropes to be a primitive notion. To the question: what is it about one F trope that makes it the F trope it is and not some other F trope? Campbell would say ‘just being that F trope rather than any other’.⁷⁶ The intuition behind Campbell’s analogy is easy to see, and on the surface, it appears to refute Moreland’s argument. If a point on a graph were non-simple, then it could be assayed into parts. (Maybe not physical parts, but certainly conceptual parts.) But we do not assay a point into parts just by saying several things about it. Imagine carving a point *x* into parts because it is said to be 10 mm distant from point *y*, 9 mm distant from point *z*, and identical to itself, so that one part corresponds to each fact. The idea sounds quite silly. We may predicate several true statements of the point, but it remains as much a distinct ‘this’ as a bare particular. Campbell wonders why we should not think the same applies to tropes.

It is exceedingly clear by now that I think a trope can be carved up into parts, and this may sound ridiculous, but I also think that Campbell’s point example can be used to show how. Indeed, I believe that points can be intelligibly carved up into parts. Well, points that are built out of tropes anyway. Let me explain.

In a purely geometrical sense, a point is something that has position, but not spatial extent or dimension, e.g., the intersection of two lines. It seems accurate to say, then, that a trope is *point-like*. A point cannot be a trope because tropes have spatial extent; but it is like a trope because tropes have position. Campbell offers an account in his 1990 for how trope theory should account for geometrical objects. Here is what he says about points:

⁷⁶ Campbell 1990, p. 69.

Some [geometrical objects], the points and lines, may possibly be regarded as constructions (as in the Whitehead-Russell method of extensive abstraction.⁷⁷

Without digressing too much, extensive abstraction is a strategy used by Whitehead to develop one logical model for linking together three disparate classes of phenomena: what he calls ‘apparent objects’ (essentially sensory perceptions) ‘physical objects’ (e.g, atoms, molecules, electrons), and geometrical concepts. Hurley 1979 summarizes:

Although the logical details of the method of extensive abstraction are rather sophisticated, the overall strategy is quite simple. For example, as concerns apparent space, Whitehead begins with the set of relationships existing between any perceiver and any perceived object; then he identifies the group of apparent objects as the set containing the converse domains of these relationships. (The converse domain of the relation ‘father of’, for example, is the set of fathers.) Thereupon he arranges these apparent objects in converging series wherein each contains a yet smaller one. For example, the apparent object which is ‘the house’ contains the apparent object which is ‘the room,’ ‘the room’ contains ‘the cabinet’, ‘the cabinet’ contains ‘the bottle’, and so on. In the end this series is perceived (or conceived) to terminate in a point, or in some other basic element of perceptual geometry.⁷⁸

A geometrical point is arrived at just the way that tropes are: through an act of abstraction. For Campbell, though, a point is a ‘construction’ because it is known through *multiple* acts of abstraction. Tropes are known through *single* acts of abstraction. Campbell believes that we are incapable, experientially speaking, of abstracting any further beyond the level of tropes. (In Hurley’s example, a perceiver might have stopped at the bottle’s shape or volume.) We do not actually experience

⁷⁷ Campbell 1990, p. 91.

⁷⁸ Hurley 1979, p. 15.

points, but we can understand that they occur at a level beyond tropes. Thus, they would be theoretical constructions out of subsequent acts of abstraction. On Campbell's reading of 'point', it would be absolutely correct to say that a point is simple because any division of it into parts could only occur through a further act of abstraction. And abstraction, theoretically, stops at the level of points.

I am inclined, however, to think that there is another reading of 'point', one that denotes an existent that has true parts. Consider Figure 1:

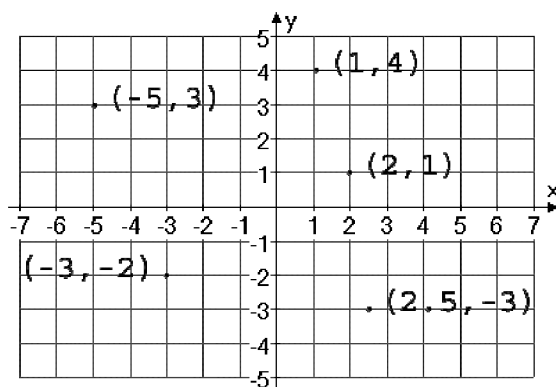


FIGURE 1 – CARTESIAN PLANE⁷⁹

What are the natures of the points at $(-3, -2)$, $(-5, 3)$, $(1, 4)$, $(2, 1)$, and $(2.5, -3)$? They seem to be both abstract and particular; all I need to do is selectively attend to the appropriate coordinates to grasp each one. But a moment ago, we ruled out the possibility that points are tropes. How, then, would Campbell answer the question 'in virtue of what are the existents on the graphs points'? I suspect that he would have to say 'The existent at $(-3, -2)$ has a trope of point-hood, $(2, 1)$ has a trope of point-hood, each existing in its own right, each with its own particularized nature', and similarly for the other points. Notice that Campbell would have given a similar response to a

⁷⁹ Retrieved from Bruno Wichnoski's (2004) mathematics website (http://www.math.uncc.edu/~bjwichno/fall2004-math1242-006/Review_Calc_I/lec_coord_sys.htm)

question like ‘in virtue of what are these two tomatoes red’? (‘Each tomato has its own red trope.’) The second question is about ordinary concrete particulars, while the first is about things that aren’t proper abstract particulars. So what *are* points? Might it be reasonable to say that points, too, are concrete particulars? The tentative answer to the first ‘in virtue of’ question leads me to believe that it might.⁸⁰ There are three indications why. First, tropes of pointhood were abstracted *from* each point in just the way that tropes are abstracted from ordinary concrete particulars. (Admittedly, this example is difficult because any attempt to abstract a trope of pointhood winds up with my abstracting the whole point.) Second, they all have the property ‘being a point’ predicated of them, just like how ‘being a tomato’ and ‘being red’ are predicated of certain concrete particulars. Third, other than the fact that points are not solid and do not have surfaces like rocks, tables, or chairs do, they are like ordinary concrete particulars, especially in how they cohere as unities on each coordinate.

Unities of what, you ask? Unities of tropes! *If* each point on the graph is concrete, and *if* Campbell’s trope ontology is true, it follows that there are bundles of pointhood tropes at each coordinate, meaning that each one has at least one pointhood trope as a part. And now here comes the problem. It seems to me that *being a point* is a legitimate general property for which there could be a resemblance set. The set would contain all the pointhood tropes in the universe, which, by their particularized natures, exactly resemble each other *qua* pointhood trope. But what is it to *be* a pointhood trope? By (5), to be a pointhood trope is just:

(7) *a* is a pointhood trope iff $a \in Resm(\text{pointhood trope})$

According to (7), to be a pointhood trope is to be a member of the resemblance set of all pointhood tropes, to have its own unanalyzable pointhood nature. We saw in §5, however, that this result is problematic. It amounts to saying that one of the point’s tropes having pointhood is on par with the point having pointhood. But because the pointhood trope is a *constituent* of the point, both the trope and the point will participate the same pointhood. Again, how is it that two things, a trope and a point, both have the

⁸⁰ I am not the first philosopher to conceive of points as concrete. Field 1980 defends the claim that they are.

property of pointhood? To avoid the conclusion that tropes are points, Campbell will have to confess that the trope and the point both participate in a universal—pointhood. To distinguish the trope from the point, each will have to contain a bare particular or individuating component. This is just another instance of the problem with tropes and particularized natures I exposed earlier. It has nothing to do with being involved in more than one kind of fact. Maurin's second defense is irrelevant.

It may turn out that points are not concrete, and Campbell could reply that the success the second reading of 'point' rests on points having spatial extent. But the fact that I can conceive of a point this way shows that the point analogy is too vague to be taken seriously. If I understand Campbell's reasoning, (although this is a very stripped-down version) it is this: 'Points are simple. Tropes are like points. Therefore, tropes are simple'. I have used the same reasoning, only with a different starting premise: 'Points are non-simple. Tropes are like points. Therefore, tropes are non-simple'.

Campbell and Maurin will surely grit their teeth over the result that a trope contains an individuating component. Their cosmology consists entirely of tropes, and if I am right, there is more to the world than tropes. Would positing a category of bare particularity tropes salvage trope theory? We might turn our noses at the thought. A bare particularity trope, I'm presuming, would have no properties itself, but it would still be a particularized property. That sounds awfully strange. Bare particulars, though, are all supposed to be distinct from one another anyway. Why not just call them tropes instead of bare particulars? If Maurin's argument from parity is valid, then we can't. As Trettin points out, someone could say that a bare particularity trope, in virtue of having no properties, has at least one property: the negative property of not-having-a-property.⁸¹ By parity, a negative property is just as good as a positive one. Tropes cannot, therefore, avoid the bare-particular + universal framework

⁸¹ Trettin 2004, p. 158.

CHAPTER III

CONCLUSION

In this paper I have shown that Campbell's trope theory is actually a version of Realism because tropes contain the same parts that the Realist's concrete particulars do. And because tropes contain parts, they cannot be simple. And because they cannot be simple, they cannot be ontologically basic. And because they cannot be basic, Campbell's trope theory fails. Like Moreland, I do not accept primitive individuality for tropes. If tropes have natures, they must be explained in terms of a bare particular + universal constitution. Indeed, it is difficult to think that tropes can exist in any robust sense without either of these parts.

One possibility that the reader might think I overlooked is that instead of a bare particular, tropes could be individuated by their location. We could say that being in different places is what individuates tropes from one another. Campbell once held this view, but later abandoned it after a criticism from Moreland. Moreland argued that if, say, a color trope is individuated by its place, then it must *have* a place, and if it is simple, then place must not be something genuinely distinct from its color. (In other words, place must not be in tropes as a part.) But several tropes can occupy the same place. Consider my tomato again. If its color is not distinct from its place, then neither is its taste. So if color and taste are not distinct from place, then they could collapse into one trope. If my tomato is not ripe—let it be half-red and half-green—then two matching taste tropes can be one red and one green. Because of these problems, Campbell does not think place is what individuates tropes.⁸²

⁸² For more on this point, see Campbell 1990, pp. 151-55.

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APPENDIX

WHY EXACT RESEMBLANCE MUST BE AN EQUIVALENCE RELATION

The importance of exact resemblance being an equivalence relation is seen if we attempt to define a resemblance set with an inexact resemblance relation. Let's say we want to define Green. We are given three tropes: a blue-green trope *bg*, a purely green trope *g*, and a yellow-green trope *yg*. Let *bg* resemble *g* to some inexact degree *D* and let *g* resemble *yg* to the same inexact degree *D*. So far, symmetry is exhibited between both pairs: if *bg* resembles *g* to degree *D*, then *g* will resemble *bg* to the same degree. (Likewise for the resemblance between *g* and *yg*.) But transitivity does not hold of these three tropes. It is conceivable that *bg* does not resemble *yg* to any such degree. If that is the case, then we cannot say that these three tropes form the resemblance set Green. Which trope in the bundle would we be referring to when we assign the property of greenness to an object? Suppose I am holding two blades of grass and I call them both 'green'. One blade has the *bg* trope, while the other has the *yg* trope. In that situation, it seems that I would not be talking about two instances of color that correspond to the general property Green. Rather, I would be talking about two *noticeably different* properties. If this is right, then the set $\{bg, g, yg\}$ cannot serve as a substitute for a universal. Both blades of grass call for different extensions since the similarities between their tropes are so disparate.

Another problem that arises with inexact resemblance is that we may end up with an incorrect classification. *yg* may resemble a purely yellow trope *y* much more than either *bg* or *g*. Wouldn't it be more appropriate to include *yg* in the (inexactly resembling) set Yellow? Of course it would, but as long as properties are defined by inexact resemblance, there are no limits on the number of resemblance sets a trope can be included in. While inexact resemblance is bound to occur between tropes, what this appendix shows is that is not sufficient for defining a resemblance set. Equivalence, thus exact resemblance, is needed for Campbell's theory to work.

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